

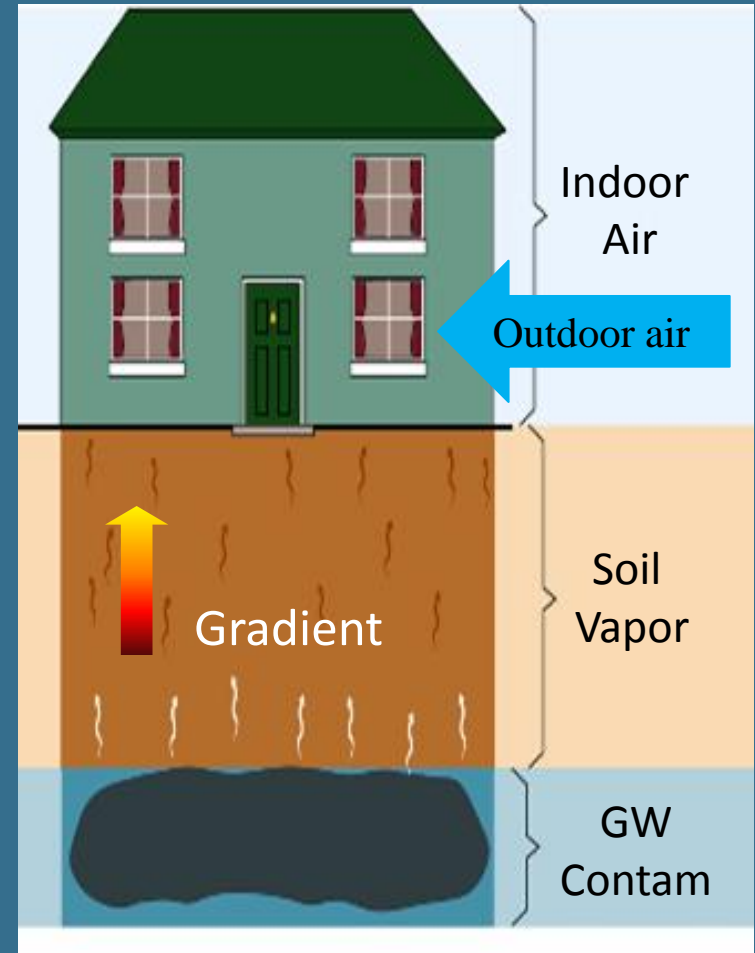
Soil Gas & Vapor Intrusion Assessment - Motorola 52nd Street Site

Phoenix, AZ
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Soil Gas and Indoor Air

- Vapor intrusion = soil gas entering overlying buildings
- Indoor air levels will be much lower than soil gas levels
 - most indoor air comes from outside (windows, doors)
 - any soil gas that does enter a building gets diluted

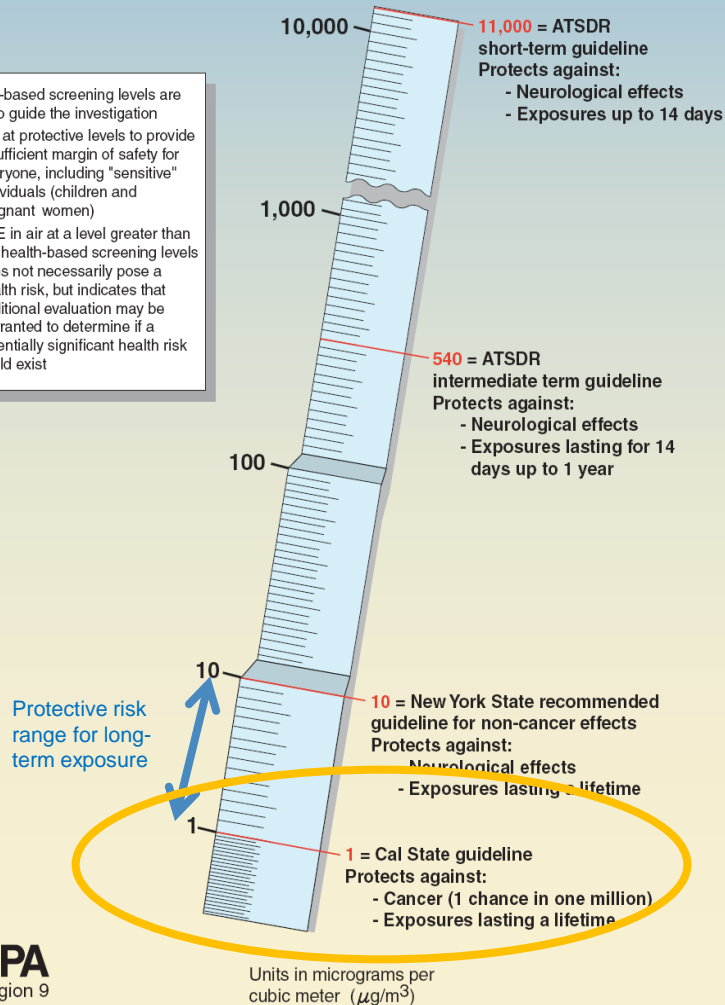


TCE Risk-Based Screening Levels

EXPOSURE RISK GUIDELINES FOR TCE IN AIR (RESIDENTIAL)

Health-based screening levels are used to guide the investigation

- Set at protective levels to provide a sufficient margin of safety for everyone, including "sensitive" individuals (children and pregnant women)
- TCE in air at a level greater than the health-based screening levels does not necessarily pose a health risk, but indicates that additional evaluation may be warranted to determine if a potentially significant health risk could exist



Protective risk range for residential exposures - TCE indoors in homes :

1.2 to 10 $\mu\text{g}/\text{m}^3$

- 24 hours/day
- 350 days/year
- 30 years

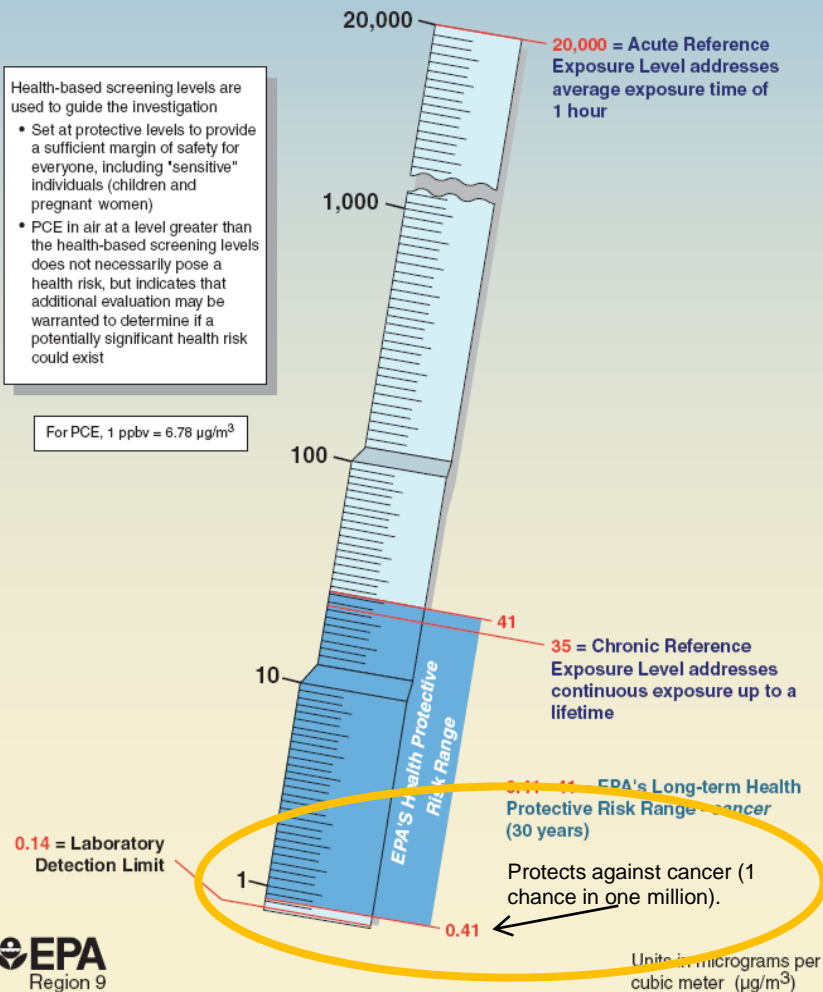
PCE Risk-Based Screening Levels

RESIDENTIAL RISK SCREENING LEVELS FOR PCE IN AIR

Health-based screening levels are used to guide the investigation

- Set at protective levels to provide a sufficient margin of safety for everyone, including "sensitive" individuals (children and pregnant women)
- PCE in air at a level greater than the health-based screening levels does not necessarily pose a health risk, but indicates that additional evaluation may be warranted to determine if a potentially significant health risk could exist

For PCE, 1 ppbv = 6.78 $\mu\text{g}/\text{m}^3$



Protective risk range for residential exposures - PCE indoors in homes :

0.41 to $35 \mu\text{g}/\text{m}^3$

- 24 hours/day
- 350 days/year
- 30 years

Soil Gas Human Health Screening Levels (SGHHSLs)

Then indoor air less than:

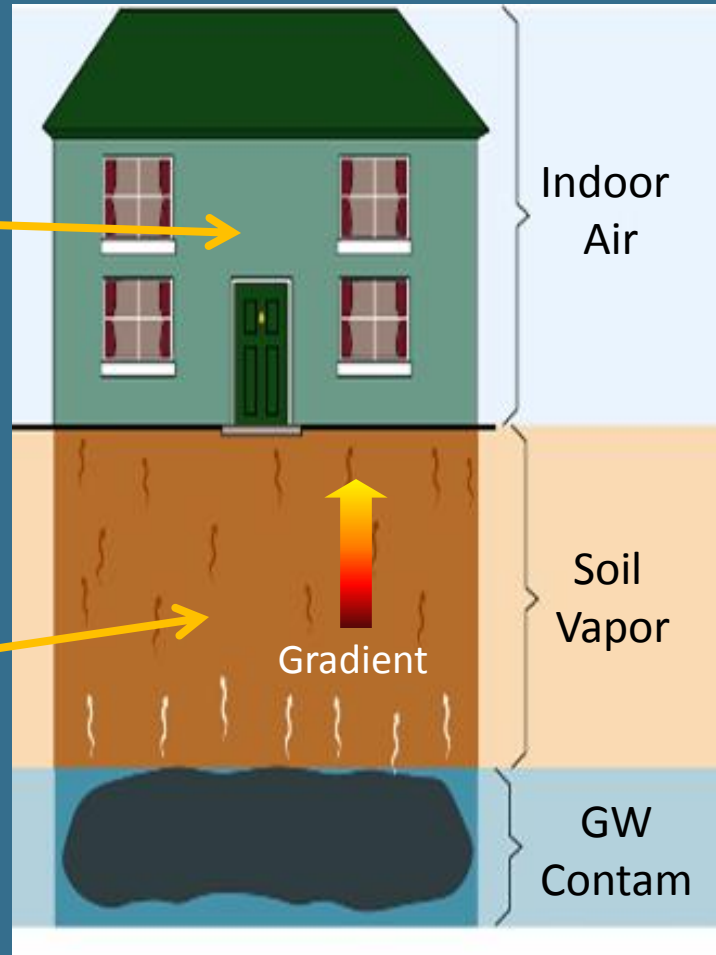
- TCE: 1.2
- PCE: 0.41

If soil gas less than:

- TCE: 520
- PCE: 180

(SGHHSLs)

All values $\mu\text{g}/\text{m}^3$



Potential for vapor intrusion - additional assessment needed:

- Additional soil gas (**step-out samples**)
- **Indoor air**

If soil gas greater than SGHHSLs

- TCE: 520
- PCE: 180